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| SERIAL NUMBER | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|---------------|-------------|----------------------|---------------------|
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07/990,737 12/15/92 JEFFREY M GPT/4265-US

KIZOU.H EXAMINER

26M1/1129

KIRCHSTEIN, OTTINGER
ISRAEL & SCHIFFMILLER, P.C.
551 FIFTH AVE.
NEW YORK, NY 10176-0024

ART UNIT PAPER NUMBER

2603

DATE 1/29/93

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

- ☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-7 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-7 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed on _____, has been ☐ approved. ☐ disapproved (see explanation).
12. ☒ Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has ☒ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

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Part III DETAILED ACTION

Drawings

1. The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "plurality of parallel data switching planes", the "parallel control plane", the "input ports", the "output ports" and the "central switching unit" of claim 1 must be shown or the features cancelled from the claim. No new matter should be entered.

2. Applicant is required to submit a proposed drawing correction in response to this Office Action. Any proposal by the applicant for amendment of the drawings to cure defects must consist of two parts:

a) A *separate* letter to the Draftsman in accordance with MPEP § 608.02(r); and b) A print or pen-and-ink sketch showing changes in *red ink* in accordance with MPEP § 608.02(v).

IMPORTANT NOTE: The filing of new formal drawings to correct the noted defect may be deferred until the application is allowed by the examiner, but the print or pen-and-ink sketch with proposed corrections shown in red ink is required in response to this Office Action, and *may not be deferred*.

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Specification

3. The disclosure is objected to because of the following informalities: On page 4, line 31, "thSTM" should be corrected to --the STM--. On page 5, line 2, the sentence "be able to error detection and appropriate recovery" is meaningless and should be corrected. Appropriate correction is required.

4. The incorporation of essential material by reference to a foreign application or foreign patent or to a publication inserted in the specification is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or applicant's attorney or agent, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. *In re Hawkins*, 486 F.2d 569, 179 USPQ 157; *In re Hawkins*, 486 F.2d 579, 179 USPQ 163; *In re Hawkins*, 486 F.2d 577, 179 USPQ 167.

5. The attempt to incorporate subject matter into this application by reference to the United Kingdom Patent Applications Numbers: 9116748.6, 9116749.4, 9916750.2 and 9916763.5 is improper because these are foreign patent applications.

6. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure.

The specification provides no description of the detailed structure of the Input Switch, the Output Switch, the Rotators, the Central Buffer and the Central Control constituting the STM of Figure 2, and no description on how these circuits operate and how they interact; it appears that applicants relied totally on the U. K. patent applications cited above, and which were improperly incorporated by reference, to provide the detailed structure and operation of the claimed STM switch. The specification also does not describe the claimed "parallel data switching planes" and "parallel control plane".

Claim Rejections - 35 USC § 112

7. Claims 1-7 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

8. Claims 1-7 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is not clear what is meant by "parallel control plane". It is not clear whether "each plane" (lines 2-3) refers solely to the "switching planes" or to

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the "control plane" as well. In claims 2-3, it is not clear what is meant by "timeslot of the central unit" and "timeslot of the central switching unit". Claims 4-7 are rejected for having the same deficiencies found in their parent claims.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

10. Claims 1-7 (as best understood) are rejected under 35 U.S.C. § 103 as being unpatentable over Takeuchi et al. (US Patent 5233603) in view of Beshai et

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al. (US Patent 5168492). Takeuchi et al. discloses a packet switch -Figure 8- comprising a plurality of switch units #1 to #P (parallel data switching planes) and an address controller 238 (control plane). Each switch unit has an equal number N of input ports (inputs to S/P's 1091 to 109N) and output ports (outputs of S/P's 1171 to 117N), and a central switch unit (bus 215 and FIFO's 2171 to 217N). See column 7, line 29 through column 10, line 39. Data is switched between the inputs and outputs of the packet switch in blocks of 8 bits (in octets) as indicated in column 8, lines 21-23. The reference however does not disclose that the packet switch is an STM switch (as in claim 1) and does not disclose the rotator means (as in claims 2-7). Beshai et al., in the same field of endeavor, discloses an ATM switch as shown in Figure 2, and suggests in column 6, lines 31-49, that the switch can be readily adapted to perform STM switching (see also Figure 5). Given that ATM switching is not well suited to handle synchronous traffic (delay sensitive traffic such as voice and video), it would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the ATM switch of Takeuchi et al. to perform STM switching, as suggested by Beshai et al., in order to accommodate synchronous traffic. Beshai et al. also discloses rotators 20 and 20 connected to the inputs and outputs of a switch 18, as shown in Figure 2 (packet buffers 18 function as space switch; see column 4, lines 1-2). it would have been obvious to one of ordinary skill in the art at the time the invention was

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made to modify Takeuchi's switch so as to use rotators, as taught by Beshai et al., since Beshai et al. states in the abstract that using rotators has the advantages of reducing the switch hardware complexity and (in the ATM mode) eliminating arbitration. It would also have been obvious to one of ordinary skill in the art at the time the invention was made to use multistage rotators, since Beshai et al. further discloses that a multistage arrangement of rotators reduces the number of rotators required compared to that required for a square rotator arrangement (see column 7, lines 15-20).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Imagawa et al. is cited to show a packet switch comprising parallel switch planes and control planes.

Lespagnol et al. is cited to show a packet switch comprising input and output rotation matrices.

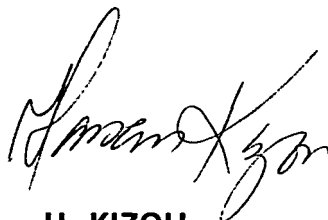
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. Kizou whose telephone number is (703) 305-4744.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

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A handwritten signature in black ink, appearing to read 'H. Kizou', is positioned above the printed name.

H. KIZOU
PATENT EXAMINER
G.A. 2603

November 20, 1993